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10/559,865	12/07/2005	Stefan Haaks	2003P08356wous	7446
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Siemens Corporation Intellectual Property Department 170 Wood Avenue South Iselin, NJ 08830				
			EXAMINER LAUGHLIN, NATHAN L	
			ART UNIT 2125	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/559,865

Applicant(s)

HAAKS ET AL.

Examiner

Nate Laughlin

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2125

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 July 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 32 and 41-48 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 32 and 41-48 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### Final Action

#### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claim 32 is rejected under 35 U.S.C. 102(e) as being anticipated by Grover (U.S. Pat. 6790,680).

32. A device for determining causes of failures in an industrial process comprising a production line and an existing automation system and bus, the device comprising; a detection unit separate from the existing automation system and bus that directly detects process variables at selected measuring points on the production line and the time and location of a failure, an evaluation unit that determines correlations between the detected process variables and the time and location of the failure, and an output unit that outputs the process variables correlating with the time and location of the failure ( fig, 1 col. 1 lines 54-62, col. 10 line 20-47, col. 7 line 30-46).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 41, 43, 45-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grover (U.S. Pat. 6,790,680) in view of Card (U.S. Pat. 6,970,857).

As to claims 41 Grover teaches a method for determining causes of failures in industrial processes, comprising:

selecting a set of industrial process variables for analysis;

measuring the selected variables at selected measuring points on a production line over time until a failure indication is detected in one of the variables (col. 4 lines 20-36);

determining time correlations between the failure indication and any deviations in the other measured variables (col. 9 lines 32-45);

excluding correlations that indicate a consequential effect, and not a cause of the failure indication (col. 10- line 20- col. 11 line 39);

working-out corrective measures to eliminate the cause of the failure indication (col. 7 lines 30-44); evaluating the corrective measures technically (col. 7 lines 30-44).

As to claims 43 Grover teaches a production line comprises an existing bus and automation system that automates the production line, and wherein the method is

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implemented on a separate measuring and evaluation system with direct input from at least some of the measuring points on the production line that does not pass through the existing bus (fig. 1). Grover teaches separate buses for the commands for the tools and the sensor data coming in.

As to claims 45 Grover teaches wherein the evaluation system continuously performs elimination routines to isolate variables directly related to the failure to determine the location on the production line of the failure (col. 10- line 20- col. 11 line 39).

As to claims 46 Grover teaches further comprising determining if a sub-process in the industrial process is the location of the failure to determine the cause of the failure (col. 10- line 20- col. 11 line 39).

As to claims 47 Grover teaches further comprising determining if the cause of the failure is located in the sub process, and evaluating the sub process to determine a root cause of the failure (col. 10- line 20- col. 11 line 39).

As to claims 48 Grover teaches further comprising communicating correlation data to a service provider that provides service in the event of a failure in the industrial process to correct the failure (col. 7 lines 30-44).

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Grover teaches most of the claimed invention but fails to teach all the limitations of claim 41, however, Card teaches that process control that included cost analysis for a corrective action.

As to claim 41, Card teaches using an economical analysis of a corrective action; and selecting and implementing an optimum one of the corrective measures (col. 5 lines 36-46). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was created to include the multiple corrective optimizer of Card into the system of Grover, the motivation to combine is using a optimizer when multiple corrective action are present and yield the corrective action with the lowest cost.

4. Claim 44 rejected under 35 U.S.C. 103(a) as being unpatentable over Grover (U.S. Pat. 6,790,680) in view of Card (U.S. Pat. 6,970,857) and in further view of Buda (U.S. Pat. 6,611,724).

Grover in view of Card teaches most of the claimed invention but fails to explicitly teach that the time stamp comes from a GPS. However, Buda teaches that the time stamp come from a GPS.

As to claim 44 Babu teaches wherein the measuring step comprises time-stamping samples of the selected variables using a time signal from a global positioning

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system receiver connected to the measuring and evaluation system stamp (col. 9 line 61- col. 10 line 7).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the time-stamping or Badu into the system as described by Grover and further modified by Card. The motivation to combine is that using a GPS for time stamping results in very accurate time stamp (col. 9 line 61- col. 10 line 7).

5. Claim 42 rejected under 35 U.S.C. 103(a) as being unpatentable over Grover (U.S. Pat. 6,790,680) in view of Card (U.S. Pat. 6,970,857) and in further view of Denuell (U.S. Pat. 6,725,123)

Grover in view of Card teaches most of the claimed invention but fails to explicitly teach the limitations of claim 42, however, Denuell teaches the limitations as follows:

As to claim 42, Denuell teaches wherein the production line produces a continuously moving web of material, and further comprising determining a relative time offset for each of the selected measuring points based on a speed of the web passing through the production line, and applying the time offsets to the selected variables to correlate deviations in the variables that are offset in time, but which correspond to a given point on the moving web of material (abstract, col. 3 lines 8-28, col. 3 lines 44-67). Denuell

teaches that optical sensors for location and relocating defects can use the length and the speed of moving web to easily relocated a defect. One of ordinary skill in the art could clearly see that using time and time offset could be also used to produce the same result, therefore it is just an obvious variation of idea taught by Denuell. The motivation to combine is using automatic locating and relocating of a defect in a long strip can save time, by distinctly knowing where a defect is and not having a manual operator constantly looking for markings.

### ***Response to Arguments***

6. Applicant's arguments filed 7-12-07 have been fully considered but they are not persuasive.

As to claims 32 and 41 Applicant argues that Groves needs multiple tool failures to have perform an analysis, and that the fault analysis done by the Applicant invention, multiple failure are not need. Applicant then argues that this is present in claims 32 and 41. However, this not present in either of the claims. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., only one failure is needed to do an analysis) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

As to claim 32 and 43, Applicant argues that bus uses for measuring is separate from the automation system. As can be seen in figure 1, the detection unit is not



encompassed within the APC framework. Grover even make mention that the FDA could be either separate or integrated into the APC. Examiner also notes that the manufacturing bus that sends process tool signal is completely separate of the bus that sends sensor signals back go to the FDA.

Applicant's other arguments with respect to claims 41-48 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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*Inquiry*

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nate Laughlin whose telephone number is 571-270-1042. The examiner can normally be reached on M - F, 8am-5pm with every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Picard can be reached on 571-272-3749. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Nate Laughlin

9-27-07



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